Amendments to the Drawings

Kindly enter new Fig. 7 attached.

REMARKS

Applicants respectfully solicit favorable reconsideration and thence a notice of allowance.

Note: PTO e-filing system error

Applicants had originally sought to e-file this Amendment. The PTO's e-filing system did not function correctly, see attached. The amendments above and the remarks hereinbelow correspond to the text from which a pdf was made, and as to which the PTO system failed to recognize. It is noted that this recrudescent failure in the PTO e-filing system has been previously brought to the attention of PTO management.

Claims presented

Applicants submit claims 1-9 for examination. Applicants amended their original claims to insert parentheses "( )" around reference characters and submit the objection, Office Action, page 3, paragraph no. 2, is overcome. Applicants amended claims 6 and 7 to correct an editorial oversight and submit the formality rejection, Office Action, page 3, paragraph 4, is overcome.

Drawing

Applicants request reconsideration and withdrawal of the objection to the formal drawings. A new drawing (Fig. 7) is attached that shows a compound semiconductor functional layer (22), a substrate (21) and a thermally conductive substrate (23). It is based on original claim 5 and the specification, such as at page 11 *et seq.* so there is no new matter.

Amended Specification

Applicants amended their specification to insert a short paragraph describing new FIG. 7 based on the description in the application as filed, which includes original claim 5, as well as the disclosure at pages 2-3, and at page 11 *et seq.* Applicants submit there is no new matter.

Traversing the prior art rejections

Applicants courteously submit their claims 1-4 define novel inventions over Mori '731 (JP-H06-349731 A).

Applicants' claims 1-4 are novel because Mori '731 does not disclose or describe the method steps arranged as in claims 1-4. Since claims 1-4 are novel, Applicants submit claim 9 is likewise novel and unobvious over Mori '731. For instance, Mori '731 does not disclose polishing the substrate (1) and a part of the functional layer (2) which is in contact with (1) to remove them. Mori '731 also, as another example, does not disclose bonding a thermally conductive substrate to the exposed surface of the functional layer.

This follows from the English-language abstract to Mori '731. According to the English-language abstract, a GaAs buffer layer 2 and a first InP contact layer 3 are successively formed on an Si substrate 1 (see "(a)" in Abstract). An InGaAs spacer layer 5, InP device layer 6, second contact layer 7 are successively formed on an InP substrate 4 (see "(a)" in Abstract). Then the laminated structures on substrates 1 and 4 are put together by putting the first and second InP contact layers 3 and 7 upon each other (see "(b)" in Abstract) and they are made to adhere to each other by applying pressure while they are subjected to heat treatment. Finally, the device layer 6 is exposed by removing the substrate 4 and other layers, such as spacer layer 5.

Applicants' legal representative does not have an English-language translation of Mori '731 at hand, compare to Office Action, page 4, paragraph no. 6. *See* Rule 133 Statement filed herein on December 23, 2008.

Nonetheless, and subject to correction if an English translation is made available, for the sake of argument (*arguendo*), it appears from the Mori '731 Japanese figures that the reference does not disclose Applicants' claimed processes. *Arguendo*, from Fig. 4(a) in the Japanese text for Mori '731, it appears that a first GaAS buffer layer 31, a first InP contact layer 3, and InP device layer 6, a second InGaAs spacer 32, a first InP layer 21 are grown on an InP substrate 4. It may be by MBE. A GaAs buffer layer 2 and a second InP layer 25 apparently are grown on an Si support substrate 41. A GaAs device layer 24 and a second InP contact layer 7 are apparently grown on substrate 1. It then appears that P is removed from the first InP layer 21 and the second InP layer 25 – by heating, it would appear – to be a first metal In layer 26 and a second In metal layer as apparently illustrated in

Fig. 4(b) in the Mori '731 Japanese text. The first In layer 26 is bonded to the second In layer 27 at a temperature apparently not less than the melting temperature of In. *Arguendo,* InP substrate 4 and the first InGaAs spacer layer 31 are selectively polished and etched to remove them, and the lower surface of the first InP contact layer 3 is exposed, apparently as shown in Fig. 4(c) in the Mori '731 Japanese text. *Arguendo,* after surface treatment with HF and sulfuric acid, binding the second InP contact layer 7 with the first InP contact layer 3 is performed, and apparently subjected to heat treatment, presumably under a hydrogen atmosphere, which might as illustrated in the Mori '731 Japanese Fig. 4(d). *Arguendo*, the surface of the InP device is exposed, as in Mori '731 Fig. 4(e) in the Japanese text, by polishing and selectively etching the Si support substrate 41, the GaAs buffer layer 2, the second metal In layer 27, the first In metal layer 26, and the second InGaAs spacer layer 32.

Since claim 1 is novel and would not have been suggested by Mori '731, linking claim 9 is likewise novel and unobvious over Mori '731.

Accordingly, Applicants submit their claims 1-4 and 9 are novel over Mori '731.

Applicants respectfully submit their claims 5-9 define novel inventions over Sano '676. The Examiner is courteously requested to reconsider and withdraw the rejection of claims 5-9 under 35 U.S.C. §102(e) over Sano '676.

Sano '676 does not disclose or describe the method according to Applicants' claims 5-9. For instance, Sano '676 does not describe the claim 5 method including step (h), in which polishing a part of the compound semiconductor functional layer (22) on the side that is in contact with the substrate (21) to remove them is provided.

Conclusion:

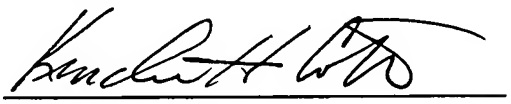
Applicants hereby request a three-month extension of time. The Commissioner is hereby authorized to charge the $1110 three-month extension fee to Deposit Account No. 06-1135. The Commissioner is further authorized to charge any required fee not intentionally omitted, including application processing, extension, extra claims, statutory disclaimer, issue, and publication fees, to said Deposit Account No. 06-1135 in connection with Order No. 7372/88130.

Applicants have responded to all matters presented in the Office Action and respectfully submit their claims 1-4 define novel inventions over Mori '731, claims 5-9 define novel inventions over Sano '676, and claim 9 defines an unobvious invention over Mori '731.

A Notice of Allowance is courteously solicited

Respectfully submitted,

FITCH, EVEN, TABIN & FLANNERY

BY: 

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